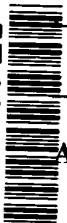


07/15/98



36598 U.S. PTO

FORM 17-1

AlRE

Attorney Docket No. 65,748-449

PATENT

jc135 U.S. PTO
09/115764
07/15/98

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Date: July 15, 1998

Assistant Commissioner for Patents
Washington, D.C. 20231

REISSUE APPLICATION TRANSMITTAL

Transmitted herewith is the application for reissue of U.S. Patent No. 5,653,148 issued on August 5, 1997.

Inventor(s): Michael Reasoner

Title: CONDUIT SHORTENING ADJUSTMENT ASSEMBLY

Enclosed are the following:

1. Specification, claim(s) and drawing(s)
- (a) ☒ 04 page(s) of specification
 - ☒ 03 page(s) of claims
 - ☒ 01 page(s) of abstract

NOTE:

This must include the entire specification and claims of the patent, with the matter to be omitted by reissue enclosed in square bracket. Any additions made by the reissue must be underlined, so that the old and new specifications and claims may be readily compared. Claims should not be renumbered. The numbering of claims added by reissue should allow the number of the highest numbered patent claim.

- (b) ☒ 04 sheet(s) of drawing
 - ☒ formal
 - ☐ informal

CERTIFICATION UNDER 37 CFR 1.10

I hereby certify that this Reissue Application Transmittal and the documents referred to as enclosed therein are being deposited with the United States Postal Service on this **July 15, 1998**, in an envelope as "Express Mail Post Office to Addressee", Mailing Label Number EM327404700US, and addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Melissa M. Koehn

(type or print name of person mailing paper)

Melissa M. Koehn

Signature of person mailing paper

NOTE:

Each paper or fee referred to as enclosed herein should have the number of the Express Mail® mailing label placed thereon prior to mailing. 37 CFR 1.10(b).

WARNING:

Certificate of mailing (first class) or facsimile transmission procedures of 37 CFR 1.8 cannot be used to obtain a date of mailing or transmission for this correspondence.

- ☒ No changes in the drawings, upon which the original patent was issued, are to be made. Therefore, in accordance with 37 CFR 1.174, please find attached, in the size required for original drawings:
 - ☒ a copy of the printed drawings of the patent.
 - ☐ a photoprint of the original drawings.

2. Declaration and power of attorney

- ☒ 03 pages of declaration and power of attorney

3. Preliminary amendment

(check, if applicable)

- ☐ Attached

4. Offer to surrender the original letters patent in accordance with 37 CFR 1.178 is attached.

- ☐ Offer to surrender is by the inventor
 - ☐ along with assent of assignee.
- ☒ Offer to surrender is by the assignee of the entire interest (and the reissue application does not seek to enlarge the claims of the original patent).

5. Letters patent

- ☒ Original letters patent are attached.
- ☐ Declaration that original letters patent lost or inaccessible

NOTE: "The application may be accepted for examination in the absence of the original patent or the declaration but one or the other must be supplied before the case is allowed." 37 CFR 1.178.

NOTE: "If a reissue be refused, the original patent will be returned to applicant upon his request." 37 CFR 1.178.

6. Title

In accordance with 37 CFR 1.171, this application for reissue is accompanied by

- ☐ a certified copy of an abstract of title.
- ☐ an order for an abstract of title.

7. Information Disclosure Statement

(check, if applicable)

- ☒ Attached

8. Priority-35 U.S.C. 119

- ☐ Priority of application Serial No. , filed on in is claimed under 35 U.S.C 119.
- ☐ The certified copy has been filed in prior application Serial No. filed on .

9. Fee Calculation (37 CFR 1.16 (h), (i) and (j))

CLAIMS AS FILED			
Number Filed	Number Extra	Rate	Basic Fee (37 CFR 1.16(h)) \$790.00
Total Claims (37 CFR 1.16(j))	16 - 20 (and also in excess of total claims in patent)	X 22.00	
Independent Claims 37 CFR 1.16(i)	1 - 3 (number of independent claims in patent)	X 82.00	
Filing fee Calculation			\$790.00

NOTE: Multiple dependent claims are treated as ordinary claims for fee purposes. 37 CFR 1.16(j).

10. Small Entity Status (if applicable)

NOTE: A new verified statement is required for the reissue, even if one has been filed in the original patent.

- ☐ A verified statement that this filing is by a small entity is
☐ attached.

Filing Fee Calculation (50% of above) \$

NOTE: If a verified statement is filed within 2 months of the date of timely payment of a fee, then the excess fee paid will be refunded on request. 37 CFR 1.128(a). Effective April 1, 1984.

11. Method of Payment of Fees

- ☒ Enclosed is a check in the amount of \$790.00.
☐ Charge Account No. 08-2789 in the amount of \$.
A duplicate of this request is attached.

NOTE: fees should be itemized in such a manner that it is clear for which purpose the fees are paid. 37 CFR 1.22(b).

12. Authorization To Charge Additional Fees

WARNING: If no fees are to be paid on filing, the following items should not be completed.

WARNING: Accurately count claims especially multiple dependent claims, to avoid unexpected high charges, if extra claim charges are authorized.

- ☒ The Commissioner is hereby authorized to charge the following additional fees by this paper and during the entire pendency of the application to Account No. 08-2789:
- ☒ 37 CFR 1.16(a), (f) or (g) (filing fees)
☒ 37 CFR 1.16(b), (c) and (d) (presentation of extra claims)

NOTE: *Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid or these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 CFR 1.16(d)), it might be best not to authorize the PTO to charge additional claim fees, except possibly when dealing with amendments after final action.*

- ☒ 37 CFR 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)
- ☒ 37 CFR 1.17 (application processing fees)

WARNING: *While 37 CFR 1.17(a), (b), (c) and (d) deal with extensions of time under § 1.136(a), this authorization should be made only with the knowledge that "[s]ubmission of the appropriate extension fee under 37 CFR 1.136(a) is to no avail unless a request or petition for extension is filed." (Emphasis added). Notice of November 5, 1985 (1060 O.G. 27).*

- ☐ CFR 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 CFR 1.31(b)).

NOTE: *Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance. 37 CFR 1.311(b).*

NOTE: *37 CFR 1.28(b) requires "Notification of any change in loss if entitlement to small entity status must be filed in the application... prior to paying, or at the time of paying,... issue fee." From the wording of 37 CFR 1.28(b): (a) notification of change of status must be made even if the fee is paid as "other than a small entity" and (b) no notification is required if the change is to another small entity.*



Harold W. Milton, Jr.
Registration No. 22,180
HOWARD & HOWARD ATTORNEYS, P.C.
1400 North Woodward Avenue, Suite 101
Bloomfield Hills, Michigan 48304
(248) 723-0352

HWM/mmk
b437\teleflex\auto\449\appltran.rei

CONDUIT SHORTENING ADJUSTMENT ASSEMBLY

TECHNICAL FIELD

The subject invention relates to a motion transmitting remote control assembly of the type for transmitting motion in a curved path by a flexible motion transmitting core element movably supported in a conduit.

BACKGROUND OF THE INVENTION

Such remote control assemblies are used in automobiles to control heaters, vents, accelerators, throttles, parking-brake interlocks, etc. The length of the conduit must be adjustable during installation as the routing and distance between the connection points varies. A manually adjustable assembly is one wherein the length of the conduit changes as two telescoping members interconnect the ends of the conduit and move longitudinally relative to one another during installation to the adjusted position whereupon a locking member is moved to a locking position to interlock the two telescoping members to prevent any change in the length of the conduit. Examples of such assemblies are shown in U.S. Pat. Nos.: 3,572,159 to Tschanz; 4,117,691 to Fillmore; 5,161,428 to Petruccello; and 5,178,034 to Keasoner, all assigned to the assignee of the instant invention. An important attribute of such assemblies is that they include a spring which biases the telescoping members apart whereby the outward ends of the conduit are moved in the overall conduit shortening direction during installation just before the overall length of the conduit is fixed.

SUMMARY OF THE INVENTION AND ADVANTAGES

A motion-transmitting remote control assembly of the type for transmitting motion along a curved path by a flexible core element movably supported in first and second conduit sections and adjustment components interconnecting the first and second conduit sections for adjusting the overall length of the first and second conduit sections. The assembly is characterized by a spring interacting with the adjustment components to bias the components together to shorten the overall length of the first and second conduit sections.

In many installation situations it is desirable to increase the overall length of the conduit during the installation. This is accomplished by the subject invention wherein the telescoping members are biased into one another in the overall shortening direction instead of being biased apart as is prevalent in the prior art assemblies.

BRIEF DESCRIPTION OF THE DRAWINGS

Other advantages of the present invention will be readily appreciated as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings wherein:

FIG. 1 is a perspective view of a preferred embodiment of the subject invention;

FIG. 2 is cross sectional view taken substantially along line 2—2 of FIG. 1;

FIG. 3 is a cross sectional view taken along line 3—3 of FIG. 1;

FIG. 4 is an exploded perspective view of the preferred embodiment;

FIG. 5 is a cross sectional view similar to FIG. 2 but showing the assembly in the shipping position:

FIG. 6 is a side elevational view of the male member of the preferred embodiment; and

FIG. 7 is a cross sectional view taken along line 7—7 of FIG. 3.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the Figures, wherein like numerals reference like or corresponding parts throughout the several views, a motion transmitting remote control assembly constructed in accordance with the subject invention is generally shown at 10. The motion transmitting remote control assembly 10 is of the type for transmitting motion in a curved path by a motion transmitting core element 12. The core element 12 is generally a wire or a plurality of stranded wires. The core element may also be divided into two parts along with the remainder of the assembly 10 and therefore include a connector for connecting the two core sections together, although such a connector is not shown many are well known in the art.

The assembly also includes first and second conduit sections. In the embodiment illustrated, the conduit sections include first 14 and second 16 conduits of the type well known in the art comprising an inner tubular member made of plastic and surrounded by wires or filaments helically disposed on a long lead angle with a plastic casing extruded about the long lay wires. The overall conduit includes the male fitting or first member 18 on the end of the first conduit section 14 and the female fitting or a second member 20 on the end of the second conduit section 16. The members 18 and 20 are made of plastic and molded about the respective ends of the conduit sections 18 and 20. It is to be understood that the subject invention may be implemented in assemblies which do not include the tubular flexible conduit sections, i.e., only the male and female members 18 and 20.

However, in the preferred embodiment the male and female members 18 and 20 define telescoping adjustment components interconnecting the first 14 and second 16 conduit sections for adjusting the overall length of the first and second conduit sections, i.e., the overall length of the conduit regardless of its makeup. The telescoping adjustment components include a locking member 19. The male member 14 includes adjustment teeth 21 therealong and the locking member 19 is supported by the female member 16 for engaging the teeth 21 in a locked position to prevent relative telescoping movement between the telescoping members 14 and 16. The locking member 19 is U-shaped with teeth 23 on the interior of the legs for engaging the teeth 21 on the male member 14. Hooks 25 are disposed at the distal ends of the legs and detent recesses 27 are disposed in the female member 16 for engaging the hooks 25 in an intermediate position out of engagement with the teeth 21. The female member 16 also presents catches 28 for engaging and retaining the hooks 25 to lock the locking member 19 in the locked position, as shown in FIG. 2. The locking member 19 includes a cap which engages the top of the female member 16 to limit the inward locking movement of the locking member 19.

This assembly 10 is characterized by a spring 22 interacting with the male and female adjustment components 18 and 20 to bias the components 18 and 20 together to shorten the overall length of the first and second conduit sections 14 and 16. a retainer 24 is disposed on one of the telescoping members during assembly thereof for retaining the spring 22

in compression; more specifically, the retainer is a projection on the male member 18. The spring 22 is a coil spring spiraled or helically disposed around the male member 18. An abutment is presented or defined by the locking member 19 for reacting with the end of the spring 22 in place of the retainer 24 upon assembly of the male 18 and female 20 telescoping members so that the telescoping members 18 and 20 are biased together in the direction to shorten the overall length of the conduit sections 14 and 16. An annular collar or ring 26 reacts axially between the retainer 24 and the end of the spring 22 during assembly and reacts between the spring 22 and the locking member 19 during adjustment of the overall length of the conduit sections 14 and 16. The collar 26 is spilt for radial expansion as it is forced over the retainer projection 24 during assembly of the spring and collar onto the male member 18. The collar is normally biased to closely engage the exterior of the male member 18.

The locking member 19 includes a tunnel 30 extending therethrough and the retainer projection 24 could be disposed on the opposite side of the member 18 in which case it would be movable through the tunnel 30 during telescoping movement of the male 18 and female 20 members in the conduit lengthing direction to allow the abutment on the locking member 19 to react with the collar and therefore the spring.

The male member 18 defines an inner end 32 and the female member 20 presents a bottom end wall 34. The inner end 32 of the male member 18 is adjacent the bottom end wall 34 when the male member 18 is fully inserted into the female member 20 to define the shortest overall length of the conduit sections 14 and 16. As the retainer 24 presents a reaction surface for reacting with the collar 26, the reaction surface is axially spaced toward the bottom end wall 34 from the abutment presented by the locking member 19 when the inner end 32 of the male member 18 is adjacent the bottom end wall 34 of the female member 20. This is accomplished by a pillar 36 extending into the female member 20 from the bottom end wall 34 thereof. The pillar 36 has a bore therethrough and the core element 12 extends through the bore in the pillar 36. The male 18 and female 20 members include complementary keyways 38 and 40 for rotary orientation of the male member 18 relative to the female member 20 to align the retainer projection 24 within the locking member 19. The keyways 38 and 40 extend axially along the exterior of the pillar 36 and the interior of a bore into the end 32 of the male member 18. Furthermore, the male member 18 presents an internal limit surface 42 for engaging the inner conical end of the pillar 36 to limit the insertion of the male member 18 into the female member 20 to define the shortest overall length of the conduit.

Additionally, the male member 18 includes a sealing length adjacent the inner end 32 thereof in sliding engagement with the interior of the female member 20 and a reduced cross section defining a spring seat 44 therebetween. The spring 22 reacts between the spring seat 44 and the collar 26. An o-ring seal 46 seals the sealing length of the male member 18 and the interior of the female member 20.

Prior to shipment, the spring 22 is radially resilient enough to be forced over the retainer projection 24 and into engagement with the spring seat 44. The collar 26 follows the spring 22 and snaps over the retainer projection 24. The spring is in compression to react between the seat 44 and the collar 26 and is retained in this position as the male member 18 is inserted into the female member 20. The male member 18 is inserted into the female member 20 until the conical end of the pillar 36 abuts the tapered complementary surface 42 on the interior of the male member 18. In other words, the

pillar 36 acts like a post to limit the contracting telescoping movement of the male 18 and female 20 members. Once inserted to this shortest overall conduit length, the collar 26 is disposed closer to the bottom end 34 of the female member than the edge of the pocket for receiving the locking member 19 so that the locking member 19 clears the collar 26 as the locking member 19 is inserted to the intermediate position with hooks 25 disposed in the detent recesses 27. In this intermediate position the teeth 23 on the locking member 19 are out of engagement with the teeth 21 on the male member 18 while in engagement with the collar. In other words, the retainer projection 24 may move through the tunnel 30 of the locking member 19 as the length of the conduit is increased whereas the sides of the locking member 19 will engage the collar 26 to compress the spring 22 thereby biasing the telescoping male 18 and female 20 members together to shorten the overall conduit length. During the insertion of the male member 18 into the female member 20, the keyways 38 and 40 are aligned to align the male member 18 within the female member 20. Once the assembly is installed and the overall length of the conduit is established, the locking member 19 is fully inserted to the locked position with its teeth 23 engaged with the teeth 21 on the male member 18.

The invention has been described in an illustrative manner, and it is to be understood that the terminology which has been used is intended to be in the nature of words of description rather than of limitation.

Obviously, many modifications and variations of the present invention are possible in light of the above teachings. It is, therefore, to be understood that within the scope of the appended claims, wherein reference numerals are merely for convenience and are not to be in any way limiting, the invention may be practiced otherwise than as specifically described.

What is claimed is:

1. A motion transmitting remote control assembly (10) type for transmitting motion in a curved path, said assembly coming:

first (14) and second (16) conduit sections:

a flexible motion transmitting core element (12) movably supported in said conduit sections:

adjustment components (18, 20) interconnecting said first and second conduit sections (14, 16) and in telescoping relationship with each other for adjusting the overall length of said first and second conduit sections:

a coil spring (22) interacting[in tension] between said

adjustment components (18, 20) to bias said components together to shorten the overall length of said first and second conduit sections (14, 16).

2. An assembly as set forth in claim 1 including a retainer (24) for retaining said spring (22) in compression on one of said telescoping members.

3. An assembly as set forth in claim 2 wherein said adjustment components include an abutment (19) for reacting with said spring (22) in place of said retainer (24) to bias said telescoping members together in the direction to shorten the overall length of said conduit sections.

4. An assembly as set forth in claim 3 wherein said first telescoping member is a female member (20) and said second telescoping member is a male member (18) slidably disposed in said female member (20), said spring (22) being supported on said male member (18).

5. An assembly as set forth in claim 4 wherein said male member (18) includes adjustment teeth (21) therealong and a locking member (19) supported by said female member

(20) for engaging said teeth (21) in a locked position to prevent relative telescoping movement between engaging said teeth (21) in a locked position to prevent relative telescoping movement between said telescoping members (18 and 20), said abutment being presented by said locking member (19).

6. An assembly as set forth in claim 5 wherein said locking member (19) includes a tunnel (30) extending therethrough for receiving said retainer (24) through said tunnel (30) during telescoping movement of said male and female members (18 and 20) in the conduit lengthening direction to allow said abutment on said locking member (19) to react with said spring (22).

7. An assembly as set forth in claim 6 wherein said male and female member (18 and 20) include complementary keyways (38 and 40) for rotary orientation of said male member (18) relative to said female member (20).

8. An assembly as set forth in claim 7 wherein said spring (22) spiraled around said male member (18) and includes an annular collar (26) reacting axially between said retainer (24) and said spring (22) and for reacting between said spring (22) and said locking member (19).

9. An assembly as set forth in claim 8 wherein said male member (18) defines an inner end (32) and said female member (20) presents a bottom end wall (34), said retainer (24) presenting a reaction surface for reacting with said collar (26) and which reaction surface is axially spaced toward said bottom end wall (34) from said abutment presented by said locking member (19) when said inner end (32) of said male member (18) is fully inserted adjacent said bottom end wall (34) of said female member (20).

10. An assembly as set forth in claim 9 including a detent (27) for holding said locking member (19) in an intermediate position out of engagement with said teeth (21) while in engagement with said collar (26).

11. An assembly as set forth in claim 10 wherein said male member (18) includes a sealing length adjacent said inner end (32) thereof in sliding engagement with said female member (20) and a reduced cross section defining a spring seat (44) therebetween, said spring (22) reacting between said spring seat (44) and said collar (26).

12. An assembly as set forth in claim 11 including a seal (46) sealing said sealing length of said male member (18) and said female member (20).

13. An assembly as set forth in claim 12 including a pillar (36) extending into said female member (20) from said bottom end wall (34) thereof, said pillar (36) having a bore therethrough, said core element extending through said bore in said pillar (36).

14. An assembly as set forth in claim 13 wherein said keyways (38 and 40) extend axially along the exterior of said pillar (36).

15. An assembly as set forth in claim 13 wherein said male member (18) presents an internal limit surface (42) for engaging the inner end (32) of said pillar (36) to limit the insertion of said male member (18) into said female member (20) to define the shortest overall length of said conduit.

16. An assembly as set forth in claim 13 wherein said locking member (19) is U-shaped with teeth (23) on the interior of said legs for engaging said teeth (21) on said male member (18) and hooks (25) at the distal ends of said legs, said detent (27) including recesses in said female member (20) for engaging said hooks (25) in said intermediate position, said female member (20) presenting catches (28) for engaging and retaining said hooks (25) to lock said locking member (19) in said locked position.

* * * * *

FIG-1

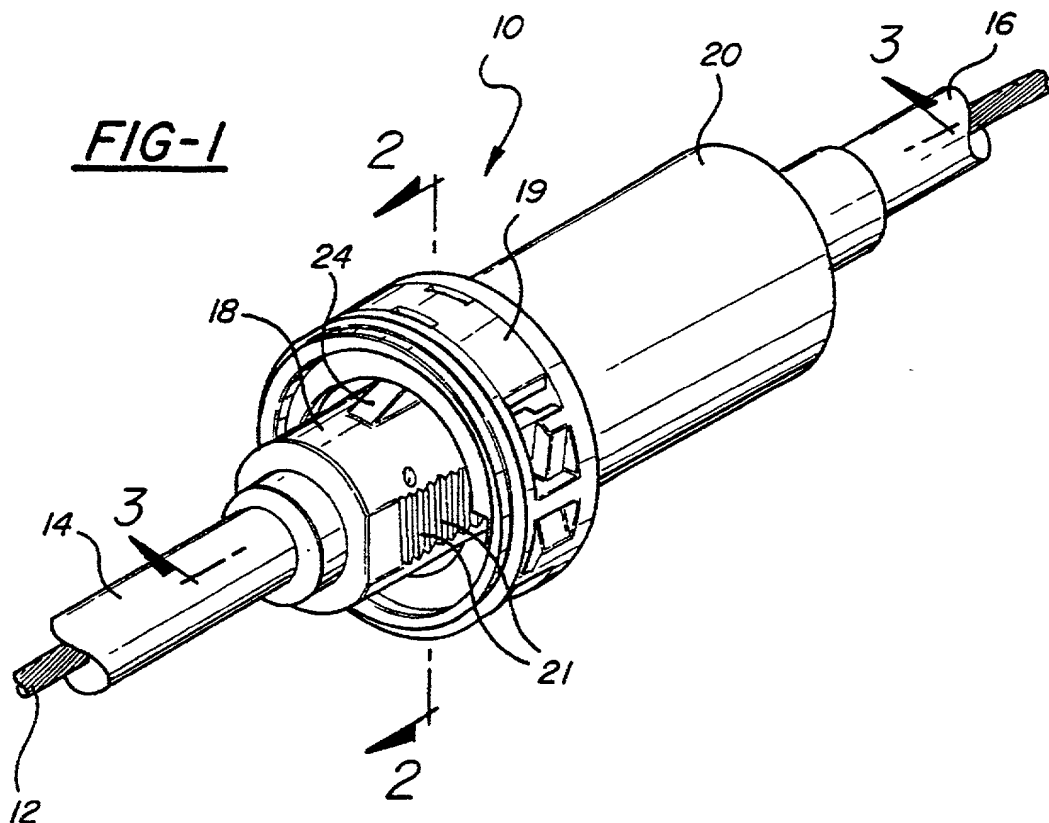
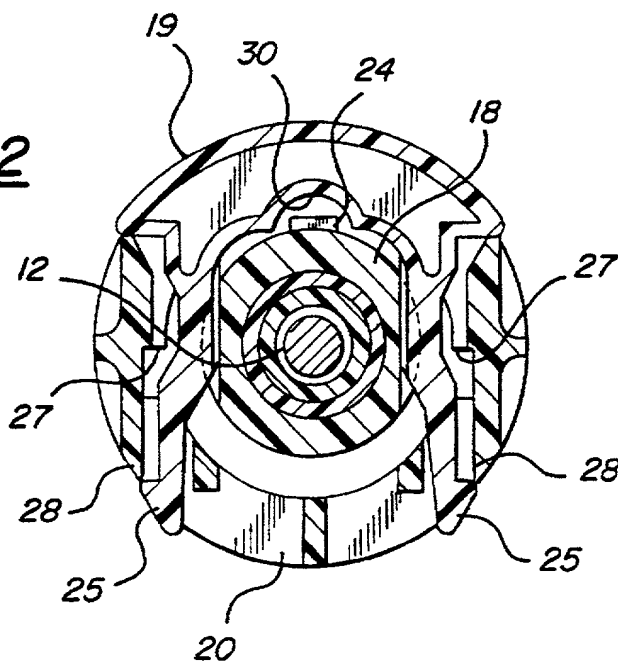
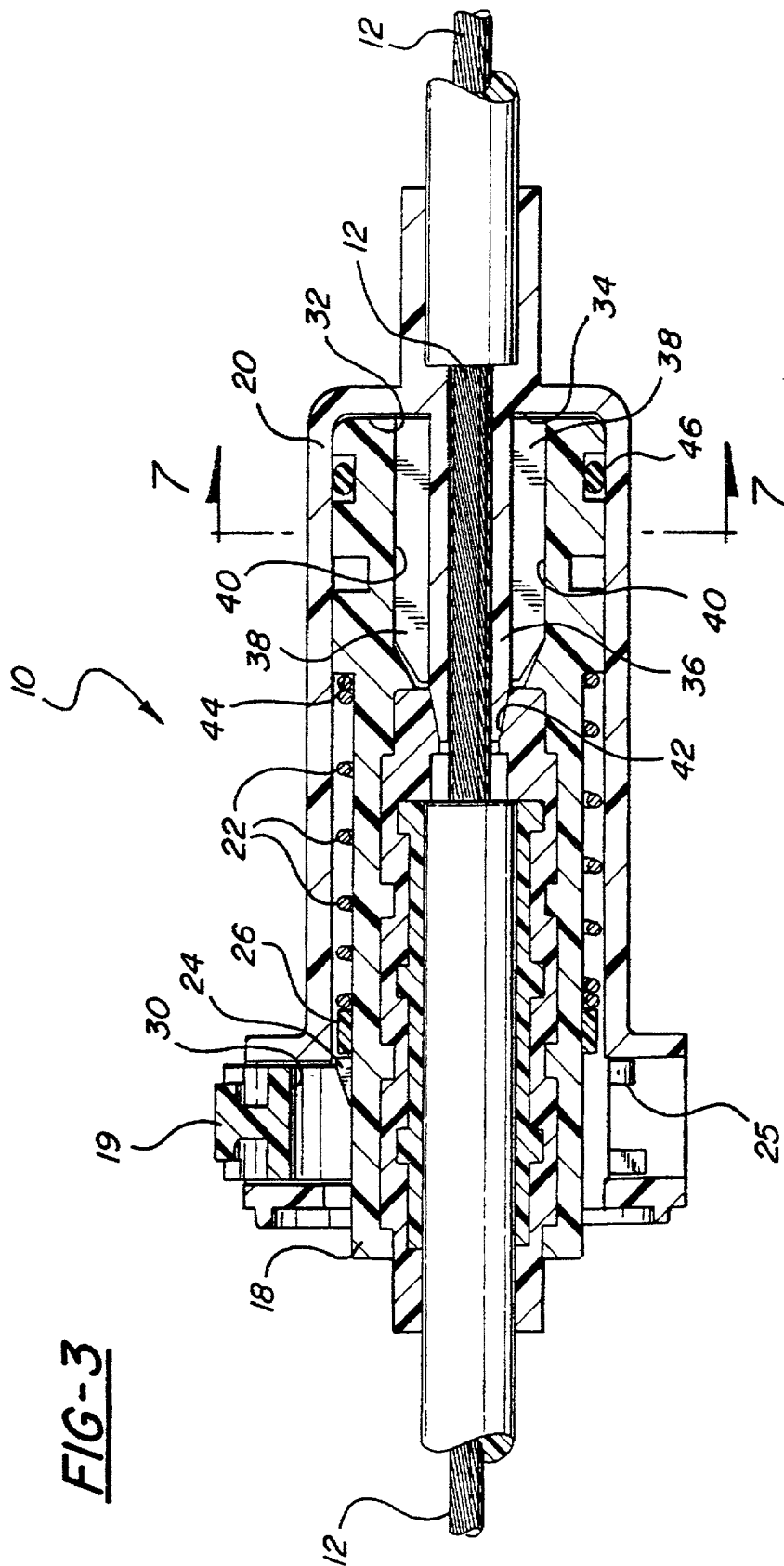


FIG-2



20034043400



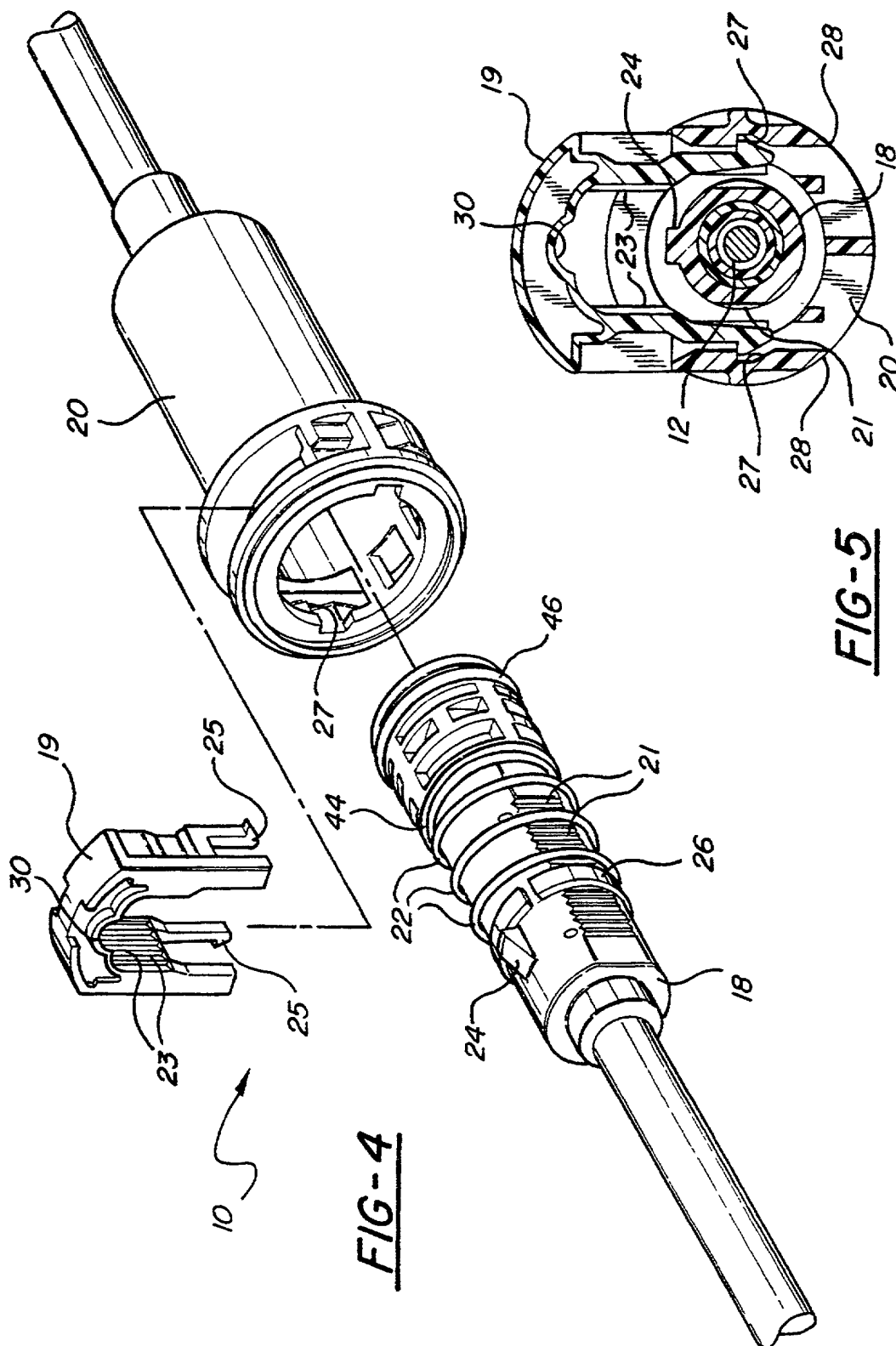


FIG-4

FIG-5

FIG-6

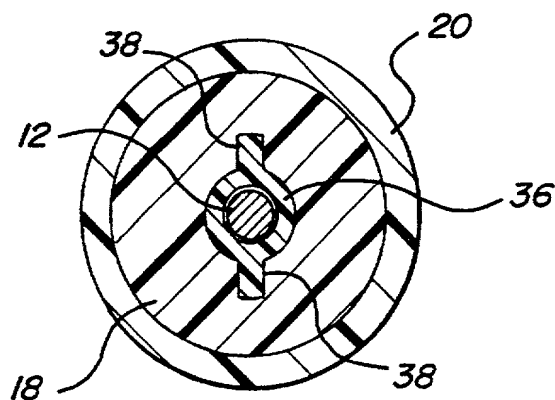
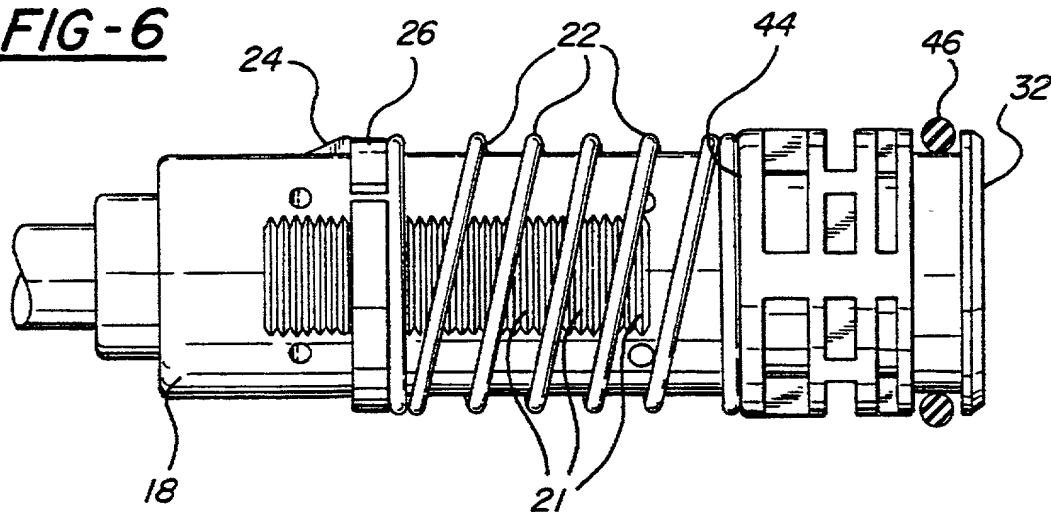


FIG-7

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Reissue of: Michael Reasoner
Reissue Serial No.: Herewith
Original Patent No.: 5,653,148
Issued: August 5, 1997
Original Application Serial No.: 08/573,561
Title: CONDUIT SHORTENING ADJUSTMENT
ASSEMBLY

REISSUE DECLARATION AND POWER OF ATTORNEY

Assistant Commissioner of Patents
Washington, D.C. 20231

Dear Sir:

As below-named inventor, I hereby declare: that my residence, post office address and citizenship is as stated near my name below; that I believe I am the original, first and sole inventor of the subject matter which is described and claimed in the above captioned United States patent application and any amendment thereto submitted herewith (if any); that I have reviewed and understand the contents of the specification of this application, including the claims, as amended by any amendment referred to above; that I do not know and do not believe the same was ever known or used in the United States of America before our invention thereof, or patented or described in any printed publication in any country before our invention thereof or more than one year prior to the original application, or in public use or on sale in the United States of America more than one year prior to the original application; that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by us or our legal representatives or assigns more than twelve (12) months prior to this application; that I acknowledge my duty to disclose information of which I am aware which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations Section 1.56(a); and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by me or my legal representatives or assigns except as follows: NONE.

Pursuant to 37 CFR § 1.175, Applicant declares the following.

THE ERROR:

Applicant's attorney made a mistake by the amendment "in tension" in Claim 1 when referring to the coil spring. In fact, the spring (22) of the preferred embodiment is in compression as set forth in line 1 of column 3. A mental error occurred because the spring urges the adjustment components (18, 20) together, not apart as in the prior art. However, the spring (22) is arranged to bias the components (18, 20) together while in compression. The spring would appear to be in tension (and could be in tension), but due to its arrangement it is in compression to urge the conduit components together. Accordingly, the insertion of "in tension" is clearly an error and inconsistent with the description of the preferred embodiment, albeit the components could be urged together by a spring in tension under the inventive concept.

The prior art does not require "in tension" as a distinguishing limitation because the other limitations added adequately distinguish over the prior art by reciting a "coil" spring to bias the components together to shorten the overall length.

This error arose without any deceptive intention on our part.

HOW THE ERROR WAS DISCOVERED:

The error was discovered in checking the claims against a competitor's product.

CORRECTING THE ERROR:

The Error will be corrected by canceling "in tension" in Claim 1.

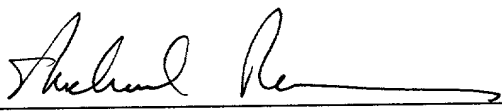
The original patent is submitted with this application and is surrendered according to 37 CFR § 1.178.

We hereby appoint Raymond E. Scott, Registration No. 22,981; William H. Honaker, Registration No. 31,623; Robin W. Asher, Registration No. P41,590; Theodore W. Olds, Registration No. 33,080; Jeffrey A. Sadowski, Registration No. 29,005; John E. Carlson, Registration No. 37,794; Harold W. Milton, Jr., Registration No. 22,180; David J. Gaskey, Registration No. 37,139; Kerrie A. Laba, Registration No. P42,77; Randall L. Shoemaker, Registration No. P43,118; and Eric L. Doyle, Registration No. P42,496; as our attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith. Please address all correspondence and telephone calls to:

Harold W. Milton, Jr.
HOWARD & HOWARD
1400 North Woodward Avenue, Suite 101
Bloomfield Hills, Michigan 48304-2856
(248) 645-1483

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: 7-6-98


Michael Reasoner

Residence and
Post Office Address:

11283 Grand Oak Drive, Apartment 8
Grand Blanc, Michigan 48439-1247

Citizenship:

United States

b437\telex\auto\449\declare.rei

ASSENT BY ASSIGNEE FOR FILING OF REISSUE APPLICATION
(37 C.F.R. § 3.73(b))

This is part of the application for a reissue patent filed herewith on the original patent identified as follows:

Name of Inventor(s): Michael Reasoner
Patent Number: 5,653,148
Date Patent Issued: August 5, 1997
Title of Invention: CONDUIT SHORTENING ADJUSTMENT ASSEMBLY

I am an officer of the assignee, Teleflex Incorporated, which owns one hundred percent (100%) of the right, title and interest in and to the above original patent. Title in the assignee is evidenced by the assignment recorded on August 12, 1995 at Reel 8080, Frame 0267.

On behalf and authorized by assignee, I assent to the accompanying application for reissue.

7/2/97

Date

Steven K. Chance, Vice President
Teleflex Incorporated

Attorney Docket No.: 65,748-449

**REISSUE APPLICATION BY ASSIGNEE, OFFER TO SURRENDER
(37 C.F.R. § 1.178)**

To the Assistant Commissioner for Patents:

The undersigned makes this statement as part of the accompanying reissue application for the reissue of Letters Patent Number 5,653,148 for an improvement in CONDUIT SHORTENING ADJUSTMENT ASSEMBLY granted on August 5, 1997 to Michael Reasoner and declares that it is now owner by assignment of the entire interest in said original patent and hereby offers to surrender said letters patent.


Statement By Assignee

Attached is a "STATEMENT UNDER 37 C.F.R. 3.73(b)," establishing the right of the assignee to take action in this reissue.

Date: _____

7/2/98

TELEFLEX INCORPORATED



Steven K. Chance, Vice President